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1. Introduction

Both immigration and tourism have increased significantly in recent decades. International migration in the world has increased from 154 million per year in 1990 to 175 million in 2000 (United Nation 2002). A common perception is that most migrants are moving from poor countries to rich countries, but in reality half of the migrations take place within the developing countries. One cause of this growth is the globalization process that enhanced mobility and improved accessibility to different places (Poot et al. 2008). In comparison, the growth in tourism was even stronger with 700 million worldwide tourist trips in 2000 as compared to 25 million in 1950 (Fischer 2007). The globalization process and the related tourism together spread further the information regarding economic prospects and tend to encourage people to move to places where they can find better economic opportunities. For example: prosperous places like London and Paris attract vast numbers of tourists, while some of these tourists become subsequently temporary or permanent migrants in the host country. So, tourism encourages migration. Conversely, migrants travel back to their home countries for short visits and their friends and relatives visit them in the host country. Therefore, migration boosts tourism. Thus, migration and tourism tend to become mutually interacting geographic phenomena whose importance is rapidly growing. Migration – related tourism seems to become an important segment of global tourism.

The visiting friends and relatives (VFR) market needs to be understood from a wider perspective of immigration and consumer trends. This can help us to figure out the size and importance of this subject and also forms the reason for further applied research. This can be illustrated by some UK figures. In the UK both the emigration of UK residents to abroad and the immigration of other countries' residents to the UK had an upward trend from 2001 to 2006. Table 1 shows the inflow, outflow and balance of immigration from 2001 to 2006.

Table 1: Inflow, outflow and balance of migration in the UK

Year	Inflow (000)	Outflow (000)	Balance (000)
2001	479	306	+173
2002	513	358	+154
2003	508	361	+147
2004	586	342	+244
2005	563	359	+204
2006	591	400	+191

Source: ONS: International migration

Table1 shows that the balance of migration in the UK is positive. Inflow of migration increased from 2001 to 2006 by 81 percent, while the outflow of migration increased from 2001 to 2006 by 77 percent. Moreover, the percentage of foreign residence in the UK as a percentage of total population increased from 4.0 in 2000 to 6.5 in 2007 (ONS: Population Trends, 2007). As there is a very close relationship between immigration and

VFR tourism, inbound and outbound VFR tourism has increased significantly during the same period in the UK. Table 2 below demonstrates the inflows and outflows of VFR visits.

Table 2: The UK related VFR visits, duration and expenditure

Year	Total VFR Visits (000)	Total Nights(000)	Total Expenditure (million £)
Inflows			
2001	5898	65183	2273
2002	6398	70806	2514
2003	6978	76439	2643
2004	7861	86717	3026
2005	8687	94393	3218
2006	9406	102169	3562
Outflows			
2001	7727	115566	2512
2002	7870	121947	2741
2003	8527	124747	2910
2004	9799	146297	3413
2005	10648	161049	3748
2006	11963	175923	4286

Source: Author's calculation based on ONS data

Table 2 shows that the inflow of VFR visits as a percentage of total visits increased from 26 percent in 2001 to 29 percent in 2006, while the outflow of VFR visits increased from 13 percent in 2001 to 17 percent in 2006. There is also an upward trend in inflow of VFR nights and VFR expenditure. They both increased – as a percentage of total nights and total expenditure – from 34 and 20 percent in 2001 to 38 and 22 percent in 2006. The outflow of VFR expenditure shows a limited increase: from 10 percent in 2001 to 12 percent in 2006.

The UK is one of few countries with a rather rich data system on tourism and migration. This paper studies the relationship between migration and VFR inbound and outbound tourism to and from the UK. Furthermore, it tries to answer the question whether demographic characteristics have an influence on VFR tourism to and from the UK. It is not easy to analyze this question, because the stock of the UK residents overseas is expected to increase the outbound tourism, while at the same time people who originated in the UK and who live in the countries being studied tend to return to their country of origin for short visits. This has also an impact on the flow of visitors to the UK. A panel from 2001 to 2006 with a cross section of 16 countries is used for the inbound flows and 14 countries are used for the outbound flows to study whether an increase in the number of immigrants from a particular country increases the number of VFR visits from that source to the UK and vice versa.

This paper is organized as follows: Section 2 offers some definitions and a literature review on various studies that explore the relationship between migration and tourism and in particular visiting friends and relatives (VFR). Section 3 describes next the methodology and data used. In Section 4, we present the results and their policy implications, and, last but not least, Section 5 presents the conclusions.

2. Literature Review

Migration and tourism have been studied independently of one another up to the second half of the 20th century (Bell and Ward 2000). This lack of attention to the interrelationships between migration and tourism may be due to the lack of appropriate data and the absence of a solid theoretical framework. The interrelationships between immigration and tourism are complicated and intertwined. The difficulty comes from the core of these two subjects since there is no unambiguous definition for both migration and tourism (Hall and Williams 2000). Migration is defined spatially "*as movement across the boundary of an areal unit*" (Boyle et al., 1998, p. 34), and "*it is generally agreed that there will be some permanence to a move described as migration"* (Boyle et al., 1998, p. 35). This definition, however, describes some characteristics of migration, but it does not provide a clear-cut definition, since it does neither cover internal migration which happens inside the areal unit nor temporary migration[1]. Meanwhile, the World Tourism Organization defines tourism as "*all travel away from home which involves a stay of at least one night but not more than one year*".

The above statement represents a lack of a resilient and transferable definition of tourism and migration. The absence of an operational definition may be due to the complicated and intertwined behavioral natures of both tourism and migration. However, the recent literature which studies the relationship between migration and tourism suggests a new conceptual nexus which exists between these two subjects in both theoretical and empirical studies (Boyne et al. 2002). Hall and Williams (2000) divide tourism - related migration into different migration flows:

- Production-led migration: this is also called labor migration which is generated by the tourist service;
- Consumption-led migration: this includes second-home owners, seasonal migration, and permanent migration.

[1] For more discussion and critics on definition of migration and tourism we refer to Hall and Williams, 2002

Based on the above two categories of migration flows, Hall and Williams (2000) present five categories of interrelationships between tourism and migration: tourism and labor migration, tourism and return migration, tourism and entrepreneurial migration, tourism and retirement, and second-home owners. Some of these five categories of tourism and migration presented by Hall and Williams (2000) have been studied more extensively; there are plenty of publications, for example, on retirement migration (Murphy 1981, Hall 1990, King et al. 1998 and 2000, Rodriguez 2001,Haug et al. 2007, Oliver 2007), on second-home owners (Haldrup 2004, Hall and Müller 2004, Williams et al. 2004, Dijst et al. 2005), on tourism and labor migration (Lundmark 2006), and related to immigration and international tourism on the import demand for consumer goods (Fischer 2007).

The above conceptualization explores mainly tourism related to migration; this subject is predominantly present in VFR tourism. Boyne et al. (2002) identify this domain as migration-related tourism. This kind of tourism is a result of geographical expansion of family and friends' networks (capital relationship). The internationalization of different forms of migration induces families and friends to maintain contact with each other. The result is a growing body of research on VFR tourism. There is a host of literature on travels with the purpose of VFR (Dwyer et al. 1993, King 1994, Cohen and Harris 1998, Morrison et al. 2000, Poel et al. 2004). Some studies like McCann et al. (2008) investigated both theoretically and empirically the psychological cost of being away from friends and relatives. They indicated theoretically that the optimized travel frequency is inversely related to distance and transportation cost, and positively related to psychological cost. Dwyer et al. (1993) found that an increase in migration of 10 percent in Australia will lead to an increase in the arrival of VFR tourists of 5.5 percent. They also suggested that immigration does not have an impact on other types of tourism. Seetaram (2008) found that the effect of immigration on tourism demand in Australia is relatively higher than that of growth in trade flows and population growth.

The interrelationship between migration and VFR tourism in the UK is an underdeveloped area in the field of tourism economics. A small number of studies has looked into some aspects of VFR tourism; for instance, Hay (1996) on domestic VFR tourism. Seaton and Palmer (1997) empirically illustrated a number of features for domestic VFR tourism in the UK and they also noted from the five years of the UK Tourism Survey that the VFR was heavily biased toward young, single people or, if older, couples with children under the age of 15 years. Cohen and Harries (1998) studied mainly VFR trips domestically. Their aim was to show the people's choice in selecting the mode of transportation between private and public modes. The Civil Aviation Authority (CAA) of the UK (2009) very recently studied the international VFR tourism. The CAA study finds that there is not a strong relationship between UK GDP and VFR trips; however, it shows that there is a link between UK GDP and migration.

Our study is different from the above mentioned VFR studies in the UK, in particular, from the recent CAA study. Firstly, we have taken into account general VFR inbound and outbound flows without any particular indication of the mode of transportation, while this is not the case in the CAA study. Secondly, our study aims to reveal the relationship between migration and VFR tourism from both a migration and tourism perspective. This study aims to answer also the question whether migration has an impact on the duration of VFR visits, total VFR visits and total number of visits.

3. Data and Methodology

3.1 *Introductory remarks*

A demand model for tourism will be used here in estimating the relationship between immigration and international tourism to and from the UK. Tourism demand depends on the income of the tourist generating country as well as the relative price index. Meanwhile, as a country's income increases, it improves the affordability of more people to visit other countries as a tourist.

The present study covers inbound and outbound VFR tourism between the UK and various OECD countries[2], for which detailed and consistent annual data on VFR visits, stock of immigrants, population and GDP per capita are available for the period of 2001 to 2006. Consequently, we have in our database six time periods and 16 cross-sectional units. However, for the outbound tourism from the UK due to lack of data on the stock of UK immigrants in France and Canada, these two countries are left out of our statistical analysis. As a result, for outbound tourism there are six time periods and 14 cross-sectional units.

We will use a regression analysis to analyze the relationship VFR-migration. The models are estimated for VFR visits, duration of VFR trips and total number of visits. Annual data on VFR visits, VFR duration and total number of visits stem from the UK Office for National Statistics (ONS). ONS defines a visit as "*those entering or leaving the United Kingdom more than once in the same period are counted on each visit. The count of visits relate to UK residents returning to this country and to overseas residents leaving it*" (Travel Trends: Appendix C, 2001, p.195). Table 3 shows the description of variables used in this empirical study.

[2]Australia, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Italy, Japan, Luxembourg, Netherlands, Portugal, Spain, Sweden, the United States. Canada and France are left out in the outbound tourism from the UK, because there no data available for the stock of UK residents in these two countries.

Table 3: Dependent and independent variables in the study

Dependent Variables	
VFRv	Total number of friends and relatives visits (in thousands per year) to and from the UK.
VFRd	The duration of visiting friends and relatives in thousands of nights per year.
Tvisits	The total number of visits (in thousands per year) by nationality to and from the UK.
Independent Variables	
Migrant stock	The number of migrants (in thousands) from various countries living in the UK and the number of the UK residents living in these countries. The expected sign for this variable is > 0.
Population	The total population (in thousands) of countries (base year= 2000). The expected sign for this variable is > 0.
GDP/capita	Gross domestic product per capita in 1000 US$ (base year= 2000). The expected sign for this variable is > 0.
Dis	Distance in 1000 kilometers. The expected sign for this variable is < 0, but for duration per visit the expected sign is >0.
Dt	Time dummy (2001 – 2006). 2001 is the base year for inbound and outbound models.
Dcount	Cross-section dummy for each country. Sweden is the reference country for inbound and outbound models.

The data have been collected from the series of Travel and Trends publications. This publication contains the main findings from the International Passenger Surveys (IPS) which collects information from the passengers to and from the UK. There are also specific data on the nationality of visitors who visited the UK. Besides, our study contains also data from other reliable sources, such as the Organization for Economic Co-operation and Development (OECD) database on the stock of immigrants and the World Economic Outlook database for GDP per capita. Data on number of visitors to the UK, and on total population of observed countries were readily available from ONS. The source for the geographical distance is the U.S Geological Survey. Finally, the stock of immigrants rather than immigrant flows is used in this empirical study, as it is plausible that the effect of immigration on VFR tourism is more prominent for those who immigrated before (stock of immigrants) than for the flow of immigrants.

3.2 Regression model specification

This study uses an OLS regression model (with and without dummy variables) with the variables as indicated in Table 3. These variables are used to estimate the effect of immigrant's links to VFR tourism. Gujarati (2003) indicates that the use of a panel methodology has advantages, as it uses more informative data and more variability. Our balanced pooled panel (a pooling of times series and cross-sectional data) is estimated for 16 countries for inbound flows and 14 countries for outbound flows over 6 years from 2001 to 2006. The regression estimation is applied to a model demand for tourism to and from the UK.

We have first formulated an OLS regression model without time and country-specific dummies, because dummy variables (fixed-effect) variables preclude the use of variables that do not vary over time (e.g., distance). Secondly, we used a dummy variable technique to test separately time effects and cross-sectional effects. The equation for the OLS regression is the following:

$$\log(Y_{it}) = \beta_0 + \beta_1 \log(stock_{it}) + \beta_2 \log(pop_{it}) + \beta_3 \log(GDP/capita)_{it} + \beta_4 \log(dis_i) + \mu_{it}, \quad (1)$$

where i refers to the original country in the inbound flows and to the UK itself in the outbound flows. Y_{it} may have different meanings (as indicated in Table 3); $stock_{it}$ is the immigration variable measured by the stock of immigrants from country i at time t, while pop_{it} is the total population and it refers to the original country. $GDP/capita_{it}$ is GDP per capita and since we are considering the bilateral tourist flows with the UK and the countries at hand, the UK's GDP per capita does not vary across the countries under consideration in the outbound flows. Dis_i is the distance in thousands of kilometers between the UK and the relevant countries.

Next a dummy variable technique was used to test separately the cross-section effect and the time effect. The distance variable is omitted from the cross-section model for the reason indicated above. Meanwhile, the UK GDP/capita is omitted from the outbound flows of visits in the time-effect model, since it is constant across countries. Therefore, its influence is captured by the time-dummy variables. The regression models including a time effect and cross-section effect separately can be written as:

$$\log(Y_{it}) = \lambda_0 + \sum_{t=1}^{6} \lambda_1 dt + \beta_1 \log(stock_{it}) + \beta_2 \log(pop_{it}) + \beta_3 \log(GDP/capita)_{it} + \beta_4 \log(dis_i) + \mu_{it}, \quad (2)$$

where dt is a time-dummy and is used to capture the time effect; all other variables are previously defined.

$$\log(Y_{it}) = \alpha_1 + \sum_{i=1}^{16} \alpha_2 Dcount_{2i} + \beta_1 \log(stock_{it}) + \beta_2 \log(pop_{it}) + \beta_3 \log(GDP/capita)_{it} + \mu_{it}, \quad (3)$$

where $Dcount_{2i}$ is a cross-section effect and is used to capture the specific features of a particular country in the regression.

The model is next regressed by using different dependent variables (see Table 3), while each model has immigration as an explanatory variable along with other explanatory variables that economic theory suggests as driving forces.

4. Model Results and Discussions

4.1 *Results for VFR visits*

Our regression analysis uses three regression models. These refer to equation (1), (2) and (3), respectively. The regression results[3] for the VFR visits show that 78, 89 and 93 percent of the variation in the dependent variable for the inbound flows is explained by the correspondence regression models, respectively. These results are slightly higher for the outbound flows with 84, 79 and 96 percent respectively. In addition, our paper uses the Wooldridge test to see, whether there is serial correlation in the regression. The Wooldridge test shown at the bottom of each regression model is higher than the test level α=0.05 for each model, and therefore the results reject the presence of serial correlation. Table 4 represents a summary of the empirical results for the inbound and outbound VFR visits.

Table 4: Regression results for VFR visits

	Inbound		**Outbound**	
	Regression Result			
Variables	**Coefficient**	**t-statistic**	**Coefficient**	**t-statistic**
Constant	-.090	-.103	2.602	2.354**
Pop	.360	4.853*	.392	8.616*
Migrant stock	.635	2.347*	.454	11.513*
GDP/capita	.417	2.347**	.316	1.075
Distance	-.261	-3.405*	-.548	-10.098*
R-square: 0.78		R-square: 0.84		
Wooldridge test Prob>F= 0.789		**Wooldridge test** Prob>F= 0.611		
	Regression Result with Time Dummy Variable			
Constant	.198	.211	3.646	8.137*
Pop	.365	4.783*	.392	8.412*
Migrant stock	.621	7.060*	.454	11.238*
GDP/capita	.360	1.751***		
Distance	-.269	-3.394*	-.548	-9.857*
R-square: 0.89		R-square: 0.79		
Wooldridge test Prob>F= 0.520		**Wooldridge test** Prob>F= 0.637		
Regression Result with Cross Section Dummy Variable				
Constant	9.163	.535	-13.580	-1.851***
Pop	-.886	-.459	1.857	2.223**
Migrant stock	.288	2.670*	.164	.969
GDP/capita	.735	2.693*	.297	2.627**
R-square: 0.93		R-square : 0.96		
Wooldridge test Prob>F= 0.823		**Wooldridge test** Prob>F= 0.611		

* Significant at 1 percent, ** significant at 5 percent and *** significant at 10 percent

The estimated coefficients have the expected signs. The stock of immigration is positively related to VFR visits and is highly significant at one percent for almost all models (apart from the cross-section model in the outbound flows of VFR visits). This

[3] See Appendix I for the results.

indicates that as the stock of immigrant increases in the UK with one percent, the VFR visits between the UK and studied countries increases at 0.64, 0.62, 0.29 percent in inbound flows and 0.45, 0.45 and 0.16 percent for the outbound flows of VFR[4].

Population is also significant at a 1 and 5 percent level in outbound and outbound flows (apart from the third model for the inbound flows of VFR visits). It is positively related to the dependent variable in the models where it is significant. GDP per capita [5]is significant at different levels in all models for the inbound flows of VFR visits. Further, it has the expected sign (positive) for the outbound models, but is not always significant there. This result confirms the previous empirical findings that income is an important determinant of tourism. Meanwhile, the CAA (2009) report also finds that GDP/capita is significant and positively related to inbound and outbound VFR visits.

Distance appears to be significant at a 1 percent level in the first two models in both directions of VFR visits. This variable has also the expected negative sign. The regression indicates that an increase in distance by one percent will decrease the inbound VFR visits by 0.26 and 0.27 percent and outbound VFR visits by 0.55 percent. The higher value of the distance parameter for the outbound VFR visits suggests that the UK residents tend to travel shorter distances than their counterparts. We can also see the effect of distance on the dummy variables of Australia, Japan and the United States which are negative and significant.

4.2 *Results for the duration of VFR*

The regression results[6] for the duration of VFR visits show that 77, 78 and 90 percent of the variation in the dependent variable for the inbound is explained by our regression estimates. These results are higher for the outbound flows with 84, 83 and 95 percent respectively. The Wooldridge test shown at the bottom of each regression model is higher than the test level α=0.05 for each model, and therefore we may reject the hypothesis of serial correlation.

Distance is not significant, even not at 10 percent, in any of the models. The explanation is that the total duration of VFR trips is the product of the total number of VFR trips and the duration per trip; when distances are longer, the duration of the trips is also longer, and this compensates for the smaller number of trips. Table 5 offers a summary of models for inbound and outbound flows related to VFR duration.

[4] The low outcomes for this elasticity in the third estimation means that part of the effect of migrant stock is already incorporated in the country dummy coefficients.

[5] GDP per capita does not vary across the countries in the outbound flows; therefore, its influence in the time-fixed effect is captured by the time-dummy variables.

[6] See Appendix II for the results.

Table 5: Regression results for duration of VFR visits

Variables	Inbound		Outbound	
	Regression Result			
	Coefficient	t-statistic	Coefficient	t-statistic
Constant	1.328	1.324	2.602	2.354**
Pop	.289	3.383*	.392	8.616*
Migrant stock	.776	8.185*	.454	11.513*
GDP/capita	.060	.293	.316	1.075
Distance	.034	.382	-.548	-10.098*
R-square: 0.77 **Wooldridge test** Prob>F= 0.209		R-square: 0.84 **Wooldridge test** Prob>F= 0.356		
	Regression Result with Time Dummy Variable			
Constant	1.889	1.765***	2.683	5.153*
Pop	.301	3.457*	.395	7.302*
Migrant stock	.741	7.393*	.414	8.807
GDP/capita	-.084	-.356		
Distance	.017	.184	-.051	-.788
R-square: 0.78 **Wooldridge test** Prob>F= 0.229		R-square: 0.83 **Wooldridge test** Prob>F= 0.152		
	Regression Result with Cross Section Dummy Variable			
Constant	13.672	.561	-30.521	-2.091**
Pop	-1.216	-.443	4.214	2.535**
Migrant stock	.484	3.151*	-.057	-.168
GDP/capita	.638	1.644	-.187	-.830
R-square: 0.90 **Wooldridge test** Prob>F= 0.216		R-square : 0.95 **Wooldridge test** Prob>F= 0.123		

* Significant at 1 percent, ** significant at 5 percent and *** significant at 10 percent

The regression result for the stock of migrants is significant at 1 percent for almost all models (apart from the cross-section model for the outbound flows). The results indicate that a one percent increase in the stock of migration increases the inbound duration of VFR by 0.78, 0.74 and 0.48 percent and outbound VFR duration by 0.45 and 0.41 percent, respectively. Meanwhile, there is a positive relationship between population and duration of visits. Population is significant mostly at one percent and it shows that an increase in population tends to positively affect the duration of VFR visits.

4.3 *Results for total number of visits*

Table 6 presents results[7] for the total number of visits, entering and leaving the UK, thus including VFR as one of the components. The share of VFR in the total number of inbound flows between 2001 to 2006 is 27.9 percent and for outbound flows it is 14.9 percent. The regression shows that 77, 78 and 90 percent of the variation in the dependent variable for the inbound is explained by our models and for the outbound flows it is 55, 55 and 95 percent, respectively. The Wooldridge test is higher than the

[7] See Appendix III for the results.

(0.05) significance level for all models, and therefore we may again reject the serial correlation.

Table 6: Regression results for total number of visits

	Inbound		Outbound	
	Regression Result			
Variables	**Coefficient**	**t-statistic**	**Coefficient**	**t-statistic**
Constant	-.091	-.090	5.836	2.381**
Pop	.701	8.083*	.491	4.874*
Migrant stock	.388	4.035*	.408	4.668*
GDP/capita	.316	1.521	.151	.231
Distance	**-**.415	-4.633*	-.791	-6.580*
R-square: 0.77		R-square: 0.55		
Wooldridge test Prob>F= 0.468		**Wooldridge test** Prob>F= 0.217		
	Regression Result with Time Dummy Variable			
Constant	.527	.484	6.321	6.349*
Pop	.716	8.092*	.491	4.749*
Migrant stock	.344	3.376*	.408	4.548*
GDP/capita	.151	.631		
Distance	-.436	-4.754*	-.791	-6.411*
R-square: 0.78		R-square: 0.55		
Wooldridge test Prob>F= 0.579		**Wooldridge test** Prob>F= 0.222		
Regression Result with Cross Section Dummy Variable				
Constant	-.973	-.044	4.990	1.157
Pop	.345	.139	-.012	-.024
Migrant stock	.425	3.062*	-.128	-1.282
GDP/capita	.656	1.868***	.315	4.739*
R-square: 0.90		R-square : 0.95		
Wooldridge test Prob>F= 0.468		**Wooldridge test** Prob>F= 0.217		

* Significant at 1 percent, ** significant at 5 percent and *** significant at 10 percent

All variables appear to have the expected signs for the parameters in both models. The stock of migrants is significant at a 1 percent level in almost all models (apart from the cross-section dummy model) in inbound and outbound flow of visits. These results means that if the stocks of migrants rise by one percent (apart from the cross-section model in the outbound flows), the changes in short-term inflows will increase by 0.39, 0.34 and 0.43 percent and outflow increases by 0.41 and 0.41 percent, respectively[8]. This result confirms that immigration is a crucial determinant of short visits in both inbound and outbound VFR trips. Meanwhile, the population has a positive sign and is also significant at 1 percent in the first two models in both inbound and outbound flows, indicating that ceteris paribus higher values for this variable imply a higher probability of short term visits between the UK and the countries of under consideration, and vice versa.

[8] Similar to the case in Table 4 we find that part of the effect of migrant stock may be incorporated in the country dummy coefficients.

The estimated coefficient for the distance is significant at a 1 percent and this indicates that a one percent increase in distance decreases the inbound short term visits by 0.42 and 0.44 percent. The impact of distance for the outbound of short-term visits is higher compared to the inbound visits. The coefficient indicates that a one percent increase in distance decreases the outflow of short-term visits by 0.79 percent. Meanwhile GDP per capita[9] is significant in the third model in both inbound and outbound flows. This presents that an increase in GDP per capita, ceteris paribus increases the inbound and outbound flows of short visits.

The comparison between the regression result from VFR visits and the total number of visits shows that the migrant stock (apart from the cross-section model in the outbound) is significant and positively related to the dependent variables. In addition, the distance is also significant and negatively related to the dependent variables.

5. Conclusion

In this paper we have analyzed the relationship between VFR visits and migration by using panel data from the UK. The aim of this paper was to answer the question whether immigration has an impact on the increase of VFR tourism (inbound and outbound) to and from the UK. The regression supports the hypothesis that there is a strong relationship between stock of migrants and VFR tourism. Our results confirm the findings from previous studies (Dwyer et al. 1992, Seetaram 2008 and CAA 2009) which have also shown that there is a clear relationship between migration and VFR tourism. The empirical result from the present paper shows that as the stock of immigrants increase from a certain country *ceteris paribus* the number of VFR visits from that particular country rises. The regression also points out that GDP per capita, which determines the ability to travel, has a positive impact on VFR visits. Next, the distance is, as expected, negatively related to VFR visits and the total number of visits. There is no significant impact of distance on the total duration of VFR visits, since long distance VFR trips are made less frequently, but when they are made the duration per trip is longer.

This paper has presented part of the broad relationship between migration and tourism. There are many other interesting topics such as those presented by Williams and Hall (2000) that need further research. One of the primary challenges in studying empirically the relationship between tourism and migration is the lack of an extensive consistent database on these two subjects. Very few studies have focused empirically on the link between migration and international tourism. This prompts significant challenges in empirical studies. Another big challenge is of course building a database. There are

[9] GDP per capita does not vary across the countries in the outbound flows; therefore, its influence in the time-fixed effect is captured by the time-dummy variables.

unfortunately, only a few countries which traditionally focus on producing data on foreign residents. This refers to a person born abroad and who retained the nationality of their country of origin, but it should also address the second and the third generations born in the host country, like European Union members. Some other countries like Australia, Canada and the US, focus on producing data on foreign-born population which refers to the first-generation migrants, and may consist of both foreign and national citizens. This difference in collection of data can produce different numbers and certainly has consequences for empirical results.

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Appendix I: Regression Results for VFR Visits[10]

Variable	Inbound			Outbound		
	Model I	**Model II**	**Model III**	**Model I**	**Model II**	**Model III**
Constant	-.090 (-.103)	.198 (.211)	9.163 (.535)	2.602 (2.354)**	3.646 (8.137)*	-13.580 (-1.851)***
POP	.360 (4.853)*	.365 (4.783)*	-.886 (-.459)	.392 (8.616)*	.392 (8.412)*	1.857 (2.223)**
Migrant stock	.635 (2.347)*	.621 (7.060)*	.288 (2.670)*	.454(11.513)*	.454 (11.238)*	.164 (.969)
GDP/capita	.417 (2.347)**	.360 (1.751)***	.735 (2.693)*	.316 (1.075)		.297 (2.627)**
Distance	-.261(-3.405)*	-.269 (-3.394)*		-.548(-10.098)*	-.548 (-9.858)	
Dum02		-.247 (-.985)			-.030 (-.163)	
Dum03		-.054 (-.210)			.021 (.115)	
Dum04		.070 (.274)			.052 (.283)	
Dum05		-.088 (-.336)			.095 (.517)	
Dum06		.037 (.141)			.160 (.867)	
Australia			1.643 (1.018)			-1.463 (-1.782)***
Belgium			.839 (2.139)**			.097 (.602)
Canada			2.220 (.872)			
Denmark			-.259 (-.256)			.677 (1.605)
Finland			-1.046 (-1.026)			-.183 (-.423)
France			3.433 (.923)			
Germany			3.543 (.820)			-2.835 (-1.612)
Greece			.531 (.985)			-.307 (-1.125)
Italy			2.663 (.714)			-2.474 (-1.581)
Japan			1.616 (.309)			-6.202 (-2.762)*
Luxembourg			-4.544 (-.773)			3.725 (1.528)
Netherlands			1.698 (1.401)			-.254 (-.526)
Portugal			.096 (.178)			-.230 (-1.422)
Spain			2.681 (.857)			-1.418 (-1.156)
USA			4.915 (.726)			-5.400 (-1.943)***
t - statistics are in parentheses. * Significant at 1 percent. ** significant at 5 percent and *** significant at 10 percent.						
R-square	0.78	0.89	0.93	**R-square**	0.84	0.79	0.96
Adjusted R-sq	0.77	0.76	0.92	**Adjusted R-sq**	0.83	0.76	0.95
Number of obs	84	84	89	**Number of obs**	83	84	81
N	16	16	16	**N**	14	14	14
K	6	6	6	**K**	6	6	6

[10] Sweden is the base country and 2001 is the base year in both inbound and outbound trips.

Appendix II: Regression Results for Duration of VFR Visits[11]

Variable	Inbound			Outbound		
	Model I	**Model II**	**Model III**	**Model I**	**Model II**	**Model III**
Constant	1.328 (1.324)	1.889 (1.765)***	13.672 (.561)	2.793 (2.149)***	2.683 (5.153)*	-30.521 (-2.091)**
POP	.289 (3.383)*	.301 (3.457)*	-1.216 (-.443)	.395 (7.394)*	.395 (7.302)*	4.214 (2.535)**
Migrant stock	.776 (8.185)*	.741 (7.393)*	.484 (3.151)*	.414 (8.918)*	.414 (8.807)*	-.057 (-.168)
GDP/capita	.060 (.293)	-.084 (-.356)	.638 (1.644)	-.067 (-.195)		-.187 (-.830)
Distance	.034 (.382)	.017 (.184)		-.051 (-.799)	-.051 (-.788)	
Dum02		-.282 (-.988)			-.144 (-.670)	
Dum03		.057 (.195)			-.239 (-1.113)	
Dum04		.239 (.825)			-.208 (-.969)	
Dum05		.041 (.139)			-.136 (-.633)	
Dum06		.198 (.664)			-.013 (-.060)	
Australia			2.738 (1.193)			-1.082 (-.663)
Belgium			.676 (1.211)			-.714 (-2.226)**
Canada			3.389 (.936)			
Denmark			-.130 (-.090)			1.624 (1.934)**
Finland			-.439 (-.303)			.898 (1.046)
France			3.909 (.739)			
Germany			4.186 (.682)			-7.727 (-2.208)**
Greece			1.303 (1.701)***			-.345 (-.636)
Italy			3.624 (.683)			-6.790 (-2.181)**
Japan			3.230 (.435)			-11.235 (-2.514)**
Luxembourg			-5.418 (-.648)			10.129 (2.088)**
Netherlands			1.743 (1.011)			-1.828 (-1.904)***
Portugal			.814 (1.060)			-.298 (-.928)
Spain			3.415 (.768)			-4.376 (-1.794)***
USA			6.508 (.676)			-12.152 (-2.198)*
t - statistics are in parentheses. * Significant at 1 percent. ** significant at 5 percent and *** significant at 10 percent.						
R-square	0.77	0.78	0.90	**R-square**	0.84	0.83	0.95
Adjusted R-sq	0.76	0.75	0.86	**Adjusted R-sq**	0.81	0.81	0.94
Number of obs	84	84	89	**Number of obs**	83	84	84
N	16	16	16	**N**	14	14	14
K	6	6	6	**K**	6	6	6

[11] Sweden is the base country and 2001 is the base year in both inbound and outbound trips.

Appendix III: Regression Results for Total Visits[12]

Variable	Inbound			Outbound		
	Model I	**Model II**	**Model III**	**Model I**	**Model II**	**Model III**
Constant	-.091 (-.090)	.527 (.484)	-.973 (-.044)	5.836 (2.381)**	6.321 (6.349)*	4.990 (1.157)
POP	.701 (8.083)*	.716 (8.092)*	.345 (.139)	.491 (4.874)*	.491 (4.749)*	-.012 (-.024)
Migrant stock	.388 (4.035)*	.344 (3.376)*	.425 (3.062)*	.408 (4.668)*	.408 (4.548)*	-.128 (-1.282)
GDP/capita	.316 (1.521)	.151 (.631)	.656 (1.868)***	.151 (.231)		.315 (4.739)*
Distance	-.415 (-4.633)*	-.436 (-4.754)*		-.791 (-6.580)*	-.791 (-6.411)*	
Dum02		-.244 (-.840)			.010 (.024)	
Dum03		.067 (.225)			.029 (.071)	
Dum04		.211 (.719)			.040 (.098)	
Dum05		.154 (.509)			.059 (.144)	
Dum06		.258 (.848)			.082 (.200)	
Australia			-.104 (-.050)			1.132 (2.344)**
Belgium			.841 (1.666)			1.833 (19.347)*
Canada			-.050 (-.015)			
Denmark			.509 (.392)			-.147 (-.593)**
Finland			.180 (.137)			-.987 (-3.888)*
France			.785 (.164)			
Germany			.645 (.116)			2.199 (2.126)**
Greece			.039 (.057)			2.125 (13.243)*
Italy			.525 (.109)			2.276 (2.474)**
Japan			-1.162 (-.173)			-1.253 (-.949)
Luxembourg			-2.061 (-.273)			-1.499 (-1.045)
Netherlands			.907 (.582)			2.070 (7.296)*
Portugal			-.215 (-.310)			1.812 (19.074)*
Spain			-.065 (-.016)			4.175 (5.790)*
USA			.504 (.058)			3.085 (1.888)***
t - statistics are in parentheses. * Significant at 1 percent. ** significant at 5 percent and *** significant at 10 percent.						
R-square	0.77	0.78	0.90	**R-square**	0.55	0.55	0.95
Adjusted R-sq	0.76	0.75	0.86	**Adjusted R-sq**	0.52	0.50	0.94
Number of obs	84	84	89	**Number of obs**	84	84	84
N	16	16	16	**N**	14	14	14
K	6	6	6	**K**	6	6	6

[12] Sweden is the base country and 2001 is the base year in both inbound and outbound trips.

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